

IN THE SPECIFICATION

Please replace paragraph [no. 0003], beginning on page 2, starting with the phrase "On the other hand...", as follows:

On the other hand, in the context of transport technologies such as optical networking, Synchronous Optical Network (SONET) rings have provided the primary technology for optical layer communication and restoration from failures. As optical layer cross connects (OLXCs) are deployed within today's transport networks based on wavelength-division multiplexing (WDM), the potential emerges to provide on-demand establishment of high-bandwidth connections. Novel mesh-based restoration techniques have been devised for such re-configurable optical transport networks. See "METHODS AND SYSTEMS FOR FAST RESTORATION IN A MESH NETWORK OF OPTICAL CROSS CONNECTS," Serial No. 09/474,031, filed on December 28, 1999, which has now issued as U.S. Pat. 6,970,417, which is incorporated by reference herein. Thus, as these re-configurable transport networks are deployed, IP network links may be routed over these networks. Optical layer failure recovery can then be used to handle problems in the transport network such as fiber cuts.

Please replace paragraph [no. 0017], beginning on page 4, starting with the phrase "The RTN depicted in FIG. 1...", as follows:

The RTN depicted in FIG. 1 comprises, for example and without limitation, optical layer cross-connects (OLXCs) that can dynamically route connection requests between its add/drop interfaces. The OLXC may be, for example, an opto-electronic cross-connect that switches according to port and time slot, or may be an all-optical device that switches entire wavelengths or fibers. The links between the OLXCs are carried over a Wavelength Division Multiplex (WDM) layer, as shown in FIG. 1, that, typically, has no automatic re-configurability. The links of the RTN are typically composed of channels (e.g., SONET STS-nc ($n \times 52.8\text{Mb/sec}$)) for electrically-based OLXCs or wavelengths for optically-based OLXCs. Connections (such as DS3 (45Mb/sec) or STS-n signals) can be routed

over the RTN by cross-connecting the appropriate bundle of channels between coincident links of an OLXC. In the example shown in FIG. 1, lower rate connections, such as OC-3, are routed over (in-service) channels of the solid links in the RTN. Some of these links will have idle channels. For example, OC-48 or OC-192 links that are totally comprised of idle channels are depicted in FIG. 1 by the dark dashed links in the RTN. The dotted line shown in the WDM layer illustrates how the idle (dashed) link between OLXC-B and OLXC-C routes over the WDM layer. Idle channels are placed on the links of the RTN network and serve two purposes: to support new lower-rate connection requests or to support connection restoration in the event of a failure within the transport network. For example, this idle channel capacity can provide extra, typically mesh-based, restoration for failures of connections routed over the RTN links. See, e.g., United States Utility Patent Application, "METHODS AND SYSTEMS FOR FAST RESTORATION IN A MESH NETWORK OF OPTICAL CROSS CONNECTS," Serial No. 09/474,031, filed on December 28, 1999, which has now issued as U.S. Pat. 6,970,417, which is incorporated by reference herein. The present invention allows the restoration channel capacity in the RTN to be used more flexibly and with less impact to the IP layer when RTN restoration capacity needs to be used for failures in the RTN.